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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/616,701 | 07/10/2003 | B. Ryland Wiggs | N9556-MJP | 1567 |
| 23456 | 7590 | 05/10/2005 | | EXAMINER |
| WADDEY & PATTERSON 414 UNION STREET, SUITE 2020 BANK OF AMERICA PLAZA NASHVILLE, TN 37219 | | | | ALI, MOHAMMAD M |
| | | | ART UNIT | PAPER NUMBER |
| | | | | 3744 |

DATE MAILED: 05/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-----------------|------------------|
| Office Action Summary | Application No: | Applicant(s) |
| | 10/616,701 | WIGGS, B. RYLAND |
| | Examiner | Art Unit |
| | Mohammad Ali | 3744 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 18 April 2005.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 38-59 is/are pending in the application.
 4a) Of the above claim(s) 46-58 is/are withdrawn from consideration.
 5) Claim(s) 39,43 and 45 is/are allowed.
 6) Claim(s) 38,40-42,44 and 59 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____

5) Notice of Informal Patent Application (PTO-152)

6) Other _____

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 38, 40, 42, 44 and 59 are rejected under 35 U.S.C. 102(b) as being anticipated by Balch (4,205,718). Balch discloses a solar-earth thermal heat system comprising a solar collector 10 and the heat acquired by the solar collector 10 is conveyed by means of fluid tubing/conduit 40/42; and the solar heat is transferred by a solar heat to direct expansion system refrigerant fluid heat exchange means 110 to the refrigerant fluid in a direct expansion system, the tubing 40/42 being heat transfer tubing is inherently insulated by, a pump 112 is provided for operating or terminating the operation of solar heat transfer system, an inverted U tube with pipe 142. See Fig. 1, 4 and 8..

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Balch. Balch discloses the invention substantially as claimed as stated above.

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However, Balch does not disclose the refrigerant fluid heat exchange means at an elevation above the solar heat collector. Choosing the location of the refrigerant fluid heat exchanger with respect to the solar heat collector is an obvious choice of an individual skilled in the art since there is no criticality or unexpected result from it.

Allowable Subject Matter

Claims 39, 43 and 45 are allowed.

Response to Arguments

Applicant's arguments with respect to claims 38-45 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammad Ali whose telephone number is 703-308-5032. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-4834

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Mohammad M. Ali
May 2, 2005